

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
6 October 2005 (06.10.2005)

PCT

(10) International Publication Number
WO 2005/092481 A1

(51) International Patent Classification⁷: **B01D 53/94, B01J 23/58, 23/63, 21/00**

(21) International Application Number: PCT/EP2005/003080

(22) International Filing Date: 23 March 2005 (23.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 10 2004 015 116.4 27 March 2004 (27.03.2004) DE

(71) Applicant (for all designated States except US): **UMICORE AG & CO. KG [DE/DE]**; Rodenbacher Chaussee 4, 63457 Hanau-Wolfgang (DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **THEIS, Julianne [DE/DE]**; Kardinal-Döpfner-Strasse 11, 63791 Karlstein (DE). **GOEBEL, Ulrich [DE/DE]**; Rathausstrasse 14, 65795 Hattersheim (DE). **WITTRICK, Meike [DE/DE]**; Südring 3, 63599 Biebergemünd (DE). **KÖGEL, Markus [DE/DE]**; Azaleenweg 1, 63791 Karlstein (DE). **KREUZER, Thomas [DE/DE]**; Philipp-Reis-Str. 13, 61184 Karben (DE).

(74) Agent: **HERRMANN, Reinhard**; Umicore AG & Co. KG, Postfach 13 51, 63403 Hanau (DE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to the identity of the inventor (Rule 4.17(i)) for all designations
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: NITROGEN OXIDE STORAGE MATERIAL AND NITROGEN OXIDE STORAGE CATALYST PRODUCED THEREFROM

(57) Abstract: A nitrogen oxide storage material which is based on storage compounds of elements selected from the group consisting of magnesium, calcium, strontium, barium, the alkali metals, the rare earth metals and mixtures thereof and has a homogeneous magnesium-aluminium mixed oxide doped with cerium oxide as support material for the storage compounds is described. Nitrogen oxide storage catalysts using this storage material display a broad working range, a high storage efficiency and good ageing resistance.

WO 2005/092481 A1